

Agriculture and Natural Resources Appropriations Subcommittee February 17, 2005

Overview of the Iowa Air Quality Program Catharine Fitzsimmons, Department of Natural Resources

Air Quality Program Description

The Air Quality Bureau, Department of Natural Resources is responsible for monitoring and maintaining outdoor air quality within the state of Iowa consistent with the mandates of the Federal Clean Air Act and Chapters 455B and 459 of the Code of Iowa. The activities of the Bureau are rooted in the Federal Clean Air Act - National Ambient Air Quality Standards that designate safe outdoor air quality levels. These safe air quality levels apply to all outdoor air accessible to the public. Nitrogen Dioxide (NO₂), Carbon Monoxide (CO), Ozone (O₃), Coarse Particulate Matter (PM₁₀ – particulate matter 10 microns or less in diameter), Fine Particulate Matter (PM_{2.5} – particulate matter 2.5 microns or less in diameter), Sulfur Dioxide (SO₂), and Lead (Pb) are the pollutants for which safe air quality standards have been established. In addition, the Federal Clean Air Act has established 188 Hazardous Air Pollutants (HAPs, or “air toxics”) for which specific industry or equipment based standards are being established. In addition, Federal “New Source Performance Standards (NSPS) require air pollution controls on specific types of industrial equipment.

To achieve and maintain these safe air quality levels, states establish State Implementations Plans. These plans include pre-construction permitting, enforcement, and monitoring outdoor air quality as cornerstones of air pollution control programs. Prior to the construction of new sources of air pollution, pre-construction air permit applications are reviewed to assure that these sources will not cause unsafe levels of air pollution. DNR staff use emissions estimates and computer models to evaluate ground-level concentrations of pollutants. Pre-construction permits establish emission limits, and may require “smoke-stack” testing, record keeping, excess emissions reporting, or other mechanisms to assure limits are met. The overall success of the permitting process is evaluated using ambient (outdoor) monitoring equipment and area or region-wide models. If safe air quality levels are not being met, that area of the state may become a federally designated “non-attainment” area. Iowa is presently one of only a dozen states which are currently meeting all National Ambient Air Quality Standards, and thus escapes additional regulation required in non-attainment areas.

Program Area Descriptions

1. Air Quality Core Program – The Core Program is the fundamental base of the air quality program and consists of the Ambient Monitoring network, Minor Source Pre-construction Evaluation and Permitting, Compliance Assistance, Enforcement, Federal Reporting, Program Planning and Rulemaking, Minor Source Emissions Inventory. Statistics: Approximately 1000 Minor Source Pre-construction Permits Issued Annually.

Achievements: 2003 Kaizen Process Improvement yielded reduction in average permit issuance time from 62 days to 10.

January 2005 DNR, DED, Industry work group made significant progress toward resolving “Indoor Source” permitting issues.

2. CAFO Monitoring, Workgroups, Rules – Air quality confined animal feeding operation work includes ongoing monitoring of hydrogen sulfide, ammonia, and odor. Statistics: 10 hydrogen sulfide and 10 ammonia monitors to separated locations. Odor study data continues to be collected by Field office personnel.

Achievements: In December 2004, a workgroup of researchers, public interest groups, and DNR staff completed the development of a report that evaluated emissions estimation and dispersion modeling methodologies, and reviewed and compiled information on best management practices. Data analysis periodically reported on website and in public forums.

3. Major Source Operating Permits and Inspections – Air pollution sources with the potential to emit 100 tons or more of a regulated pollutant, 10 tons or more of any single hazardous air pollutant, or 25 tons or more of any combination of hazardous air pollutants are classified as “Major Sources” of air pollution, and as such are required to obtain and operate under “Title V” Operating Permits. This federal program establishes a mandatory fee structure to support these efforts. Statistics: There are currently 289 Title V major sources in the state.

Achievements: Iowa has only 13 Title V permits left to issue and will complete those this summer. Permit re-issuance has begun for more than two-dozen facilities.

4. Major Source Operating Permits Special Projects Reserve – This category is reserved for special “value added” projects that may occur over the course of the year. An example of a project conducted in the past included updating our non-road engine inventory for the purposes of regional modeling related to the federal Interstate Pollution Transport rule. These surplus funds are used to reduce Title V fees in the following year if they are not used in the current year.

5. Major Source New Source Review Permits - Pre-construction Permitting at Major Sources, Prevention of Significant Deterioration (PSD) Permitting, and associated monitoring and compliance activities are conducted in this program area. These projects usually involve large new green-field constructions, or significant modifications or expansions of existing Major Sources. Statistics: Approximately 1200 Major Source permits are issued annually. Of these 300 are considered complex and require lengthy facility wide analysis.

Achievements: Construction permits for Ethanol Plants issued in approximately 90 days. October 2004 Kaizen instituted new permitting process to streamline application process. New process will reduce permit issuance time from 7 month Average to a Maximum of 6 months.

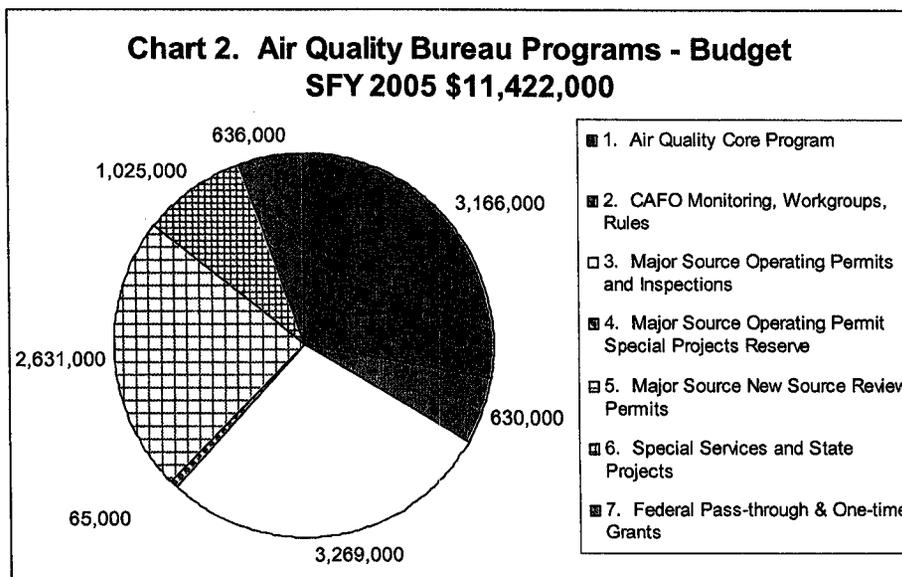
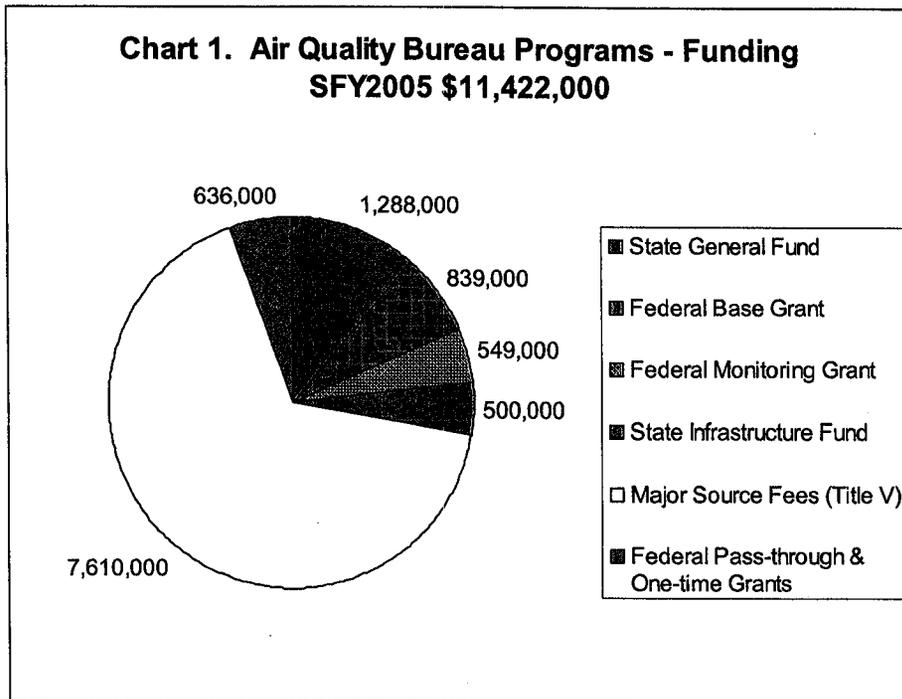
6. Special Services and State Projects – With the support of the Major Source Fees, the Department takes on special or value-added activities. Currently these include:

- Enhanced Major Source Permits Assistance coordinated with DED,
- Web-enablement of the State Permitting and Air Reporting System (SPARS),
- Public Records Conversion to Electronic Records,
- Supplemental Minor Source Permit Assistance, and
- Dispersion Modeling Services for Minor Sources.

7. Federal Pass-through and One-time Grants – Base (core) federal funding is passed-through the agency to Linn and Polk Counties for their County-based programs. This category also included special federal grants transfer to assist small business in completing Clean Air Act Risk Management Plans.

Air Quality Bureau Funding

Air Quality Bureau revenue sources consist of the legislatively appropriated General Fund and Infrastructure Fund monies, federal Clean Air Act base program and special (monitoring) study grants, Major Source Fees (Title V), and federal pass-through and one-time grants. The following Charts illustrate Program Funding (Chart 1) and Program Budgeting (Chart 2).



Ambient Air Quality Network

The ambient air quality network is deployed to measure outdoor concentrations of air pollutants across the state. The table and map below illustrate the number of monitoring sites for each pollutant, and the distribution of those sites across the state. Each site generally supports two or more pollutant monitors.

Iowa Monitoring Network 2005	
Nitrogen Dioxide	3
Toxics	3
Carbon Monoxide	5
Sulfur Dioxide	10
Hydrogen Sulfide	10
Ammonia	11
Ozone	13
PM2.5	17
PM10	21
Total Sites by Pollutant	93

All Iowa Monitoring Locations 2005

